REMARKS

Claim 1 has been amended to address the 35 U.S.C. 112 rejection. In particular, the phrase "as necessary" has been removed to address the Examiner's concerns. In addition, other amendments to claim 1 have been made to better highlight the patentable distinctions from the cited art. Finally, two new dependent claims have been added. Amended claim 1 is provided below for convenience.

> A method comprising:
>
> providing a semiconductor wafer having a plurality of integrated circuit dice formed therein, the integrated circuit dice including a plurality of electrically conductive contact pads and electrically conductive trim pads exposed on an active surface of the wafer, wherein the trim pads are not covered by a passivation layer;
>
> forming contact bumps on a plurality of the contact pads;
>
> probing the wafer after the contact bumps have been formed, wherein the wafer probing includes,
>
> a trimming operation that includes probing the plurality of electrically conductive trim pads and trimming selected circuits associated with selected trims pads, and
>
> a testing operation that involves probing at least some of the plurality of contact bumps to test selected functionalities of the integrated circuits; and
>
> applying an electrically insulating undercoating to the active surface of the wafer that directly covers the trim pads while leaving at least portions of the contact bumps exposed, the undercoating being applied after the wafer probing, whereby the wafer may be trimmed and tested at substantially the same stage of wafer processing.

Claims 1-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,327,158 B1 in view of US Pub. 2003/0127502 A1 issued to Kelkar et al and Alvarez, respectively. The relevant section of the Kelkar reference describes applying a non-solder-wetting electrically conductive protective cap, such as titanium, to cover trim pads on an integrated circuit device so as to prevent bridging between the trim pads and adjacent contact pads as well as to prevent corrosion of the trim pads.

As acknowledged in the outstanding rejections, the earlier Kelkar reference does not disclose the use of a wafer level undercoating to cover exposed trim pads after a trimming operation. That is not surprising because the primary problems being addressed in the earlier Kelkar reference were to: (1) eliminate solder bridging between the contact pads and the trim pads; and (2) make the trim pads more resistant to corrosion. In order to accomplish these objectives, a corrosion resistant (e.g. titanium) protective cap was applied to the trim pads. As would be appreciated by those skilled in the art, the aforementioned problems are particularly relevant when the trim pads are exposed. That is, the earlier Kelkar reference primarily

contemplated the use of the protective caps in embodiments that have exposed trim pads and particularly trim pads that are exposed at the time of singulation.

In contrast, the present invention takes a very different approach to protecting the trim pads. Specifically, an undercoating, such as an underfill material, is applied to the surface of the wafer after the dice have been tested and trimmed and after the wafer has been bumped. Although it is acknowledged that wafer level undercoat operations are generally known, it is respectfully submitted that nothing in the cited art would motivate those skilled in the art to make the combination articulated in the outstanding rejection. Specifically, the earlier Kelkar reference presented a product whose trim pads were **well suited for use without an underfill material**. Thus, it is respectfully submitted that those of ordinary skill in the art would not in any way have been motivated by the Alvarez reference to modify the teachings of the earlier Kelkar reference in the manner that they have been combined in the outstanding rejection, as adding an undercoating to the teachings of the earlier Kelkar reference would be redundant for the purposes of the present invention. In view of the foregoing, it is respectfully submitted that the outstanding rejections should be withdrawn for at least this reason.

In view of the forgoing amendments it is respectfully submitted that the present application is now in condition for allowance. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,

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